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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/670,448 | 09/25/2003 | Carl F. Dadson | 038190/269365 | 5530 |
| 826 7590 01/17/2007 ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000 | | | EXAMINER FLORES RUIZ, DELMA R | |
| | | | ART UNIT 2828 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | | MAIL DATE | |
| 3 MONTHS | | | 01/17/2007 | |
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| | | | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/670,448

Applicant(s)

DADSON ET AL.

Examiner

Delma R. Flores Ruiz

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-22 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1 and 18 – 22 are objected to because of the following informalities:

Claims 1 and 18 – 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 1, 6, 15 are objected to because of the following informalities: it has been held that the recitation that an element is "**capable of**" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138. ***Appropriate correction is required.***

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim s 1 – 5, 7-9, 10 - 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modisette et al. (4,778,985) in view of Hanson (5,512,748).

Regarding claims 1 and 11, Modisette discloses the method and device for generating an infrared image, shown in Figure 6, a laser light source (see Fig. 6 Character 72), a scanner (see Fig. 6, Character 76) that receives laser light from the laser light source and redirects the laser light, and a target plate (see Fig. 6, Character 92) having a first side that receives the redirected laser light (see Fig. 6, Character 74) from the scanner (see Fig. 6, Character 76) and second side, opposite the first side.

Modisette discloses the claimed invention except for processor and at least one infrared thermal image having ho^tter and cooler portion at different respective temperatures. Hanson teaches providing his device with a thermal imaging system with processor and at least one infrared thermal image having ho^tter and cooler portion at different respective temperatures. However, it is well know in the art to apply the processor and at least one infrared thermal image having ho^tter and cooler portion at different respective temperatures as discloses by Hanson in Figure 2, Character 66, Column 6, Lines 6 – 16. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known processor and at least one infrared thermal image having ho^tter and cooler portion at different respective temperatures as suggested by Hanson to the imaging system of Modisette, because the processor used a control circuit to operate thermoelectric cooler/heater to adjust the temperature of target plate to produce optimum sensitivity, and the thermal

image having different portions of temperatures see Figure 2, Character 66, Column 6, Lines 6 – 16 and abstract of Hanson.

Modisette shown Figs. 4 and 6

FIG. 6

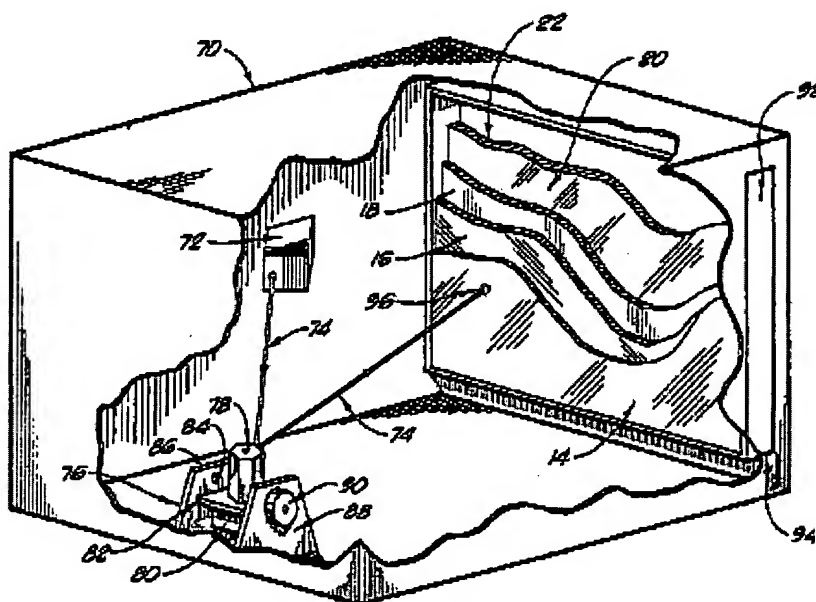
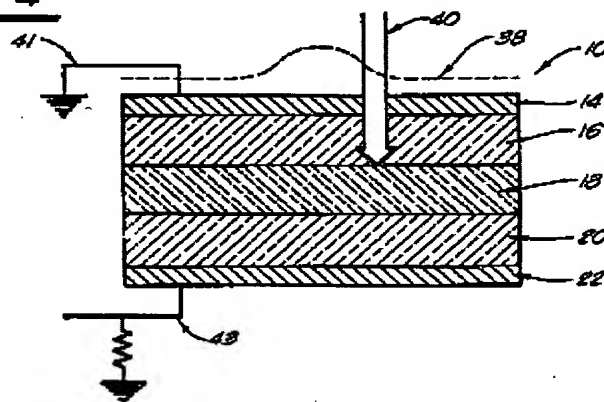
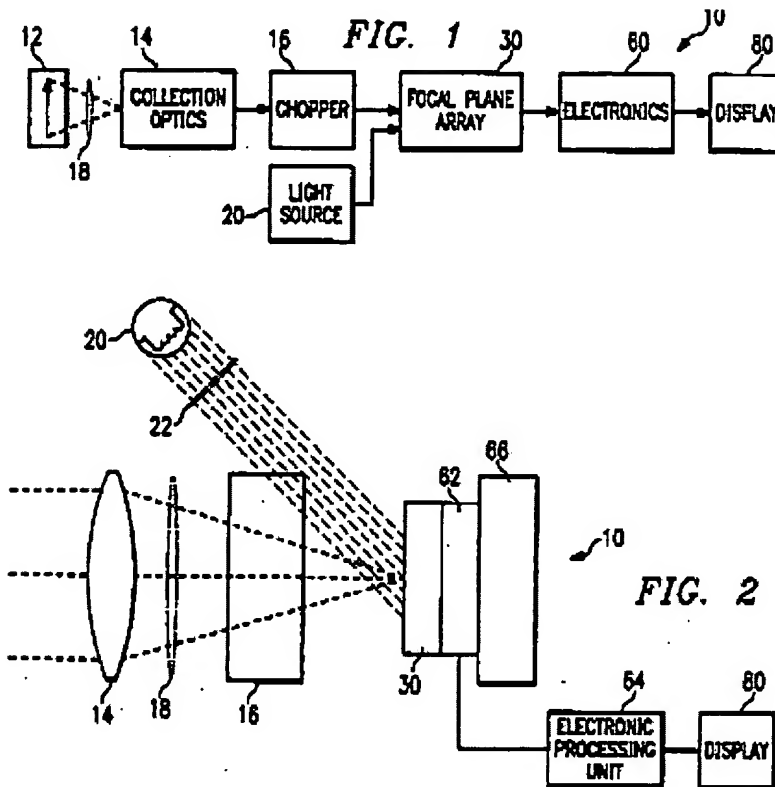


FIG. 4



Hanson shown Figs. 1 and 2

Regarding claim 2, Modisette discloses in Figure 4, a solid-state laser light source (see Fig. 4 Character 40, Column Lines 4 – 5, the reference call "Helium-Cadmium laser" this type of laser is a solid state laser).

Regarding claim 3, Modisette in view of Hanson discloses a processor that controls output power of the laser light source (it has been held that a recitation with respect to the manner in which a claimed apparatus and method are intended to be employed does not differentiate the claimed apparatus from a prior art apparatus

satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987)).

Regarding claim 4, Modisette discloses in Figure 7, an amplifier (see Fig. 7, Character 124) (that can be considered part of the scanner (see Fig. 7 Character 116)).

Regarding claim 5, Modisette discloses in Figure 4, a target plate (see Fig. 4, Character 10) with a transparent heat sink layer (see Fig. 4, Character 14) facing a scanner (layer is a heat sink because it is metallic), an insulator layer (see Fig. 4, Character 16) adjacent the transparent heat sink layer, and an emissive layer (see Fig. 4, Character 18) that is at least opaque and adjacent to the insulator layer (layer is emissive because it supports a current density).

Regarding claim 7, Modisette discloses in Figure 4, an insulator layer of heat-resistant glass (Column. 6, Lines 41-43).

Regarding claim 8, Modisette discloses in Figure 4, an emissive layer comprising carbon (Column 8, Line 16).

Regarding claim 9, Modisette discloses in Figure 7, a collimator (see Fig. 7, Character 106) disposed opposite the scanner relative to the target plate (see Fig. 7, Character 10).

Regarding claim 10 and 12, Modisette do not explicitly disclose the infrared image having at least one portion that is a temperature of at least 1000K. However, it was shown above that Modisette teach an electrically conductivity material including in the target plate. These materials will inherently have the thermal high conductivities (Temperature of at least 1000K) as claimed, and therefore these limitations are taught by Modisette.

Regarding claim 13, Modisette discloses in Figure 7, a collimating (see Fig. 7, Character 146) the image for viewing by a sensor (see Fig. 7, Character 158).

Regarding claim 14, Modisette discloses since the layer (see Fig. 4, Character 14) is metallic, it acts as a heat sink that draws heat out of the target plate after scanning the laser light across the target plate to prevent the laser light from heating portions of the target plate other than the portion on which the laser light is incident.

Regarding claim 15, Modisette discloses a laser is controlled such that it transmits laser light at one or more power levels (Column 12, Lines 1-2).

Regarding claim 16, Modisette discloses in Figure 7 a generating an image by receiving laser light having a first power level to generate a portion of the image having a first temperature, receiving the laser light having a second power level to generate a

portion of the image having a second temperature, and where the second power level and second temperature are less than the first (Column 12, Lines 1-3).

Regarding claim 17, Modisette discloses in Figure 7, a generating an infrared image by receiving the laser light for a first period of time to generate a portion of the image having a first temperature, receiving the laser light for a second period of time to generate a portion of the image having a second temperature, and where the second period of time and second temperature are less than the first period of time and first temperature (Column 12, Lines 16-17).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modisette et al (4,778,985) in view of Paoli et al (3,680,001).

Regarding claim 6, Modisette discloses the claimed invention except for heat sink is made of diamond. However, it is well know in the art to apply the heat sink is made of diamond as discloses by Paoli in Column 2, Lines 44 – 45. Therefore, it would have been obvious to a person having ordinary skill in the art to apply the well know heat sink is made of diamond as suggested by Paoli to the infrared image of Modisette, because one of the property is a high thermally conductivity material see Column 2, Lines 44 - 45 of Paoli.

Allowable Subject Matter

Claims 18 – 22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter. The following limitations are primarily responsible for distinguishing these claims over the prior art.

Regarding claims 18-22, the limitations concerning a target element capable of receiving the redirected laser light from the at least one scanning element on a first side of the target element and capable of displaying at least one infrared image on a second side of the target element that is opposite the first side, and an infrared sensor element facing the second side of the target element wherein the processing element is also capable of determining whether the sensor element detects the at least one infrared image.

Response to Arguments

Applicant's arguments filed 02/13/2006 have been fully considered but they are not persuasive. Applicant argues the prior art lacks: "Modisette '985 patent does not teach or suggest displaying any type of that displays at least one infrared thermal image having portion hotter and cooler portions at different respective temperature". The

examiner disagrees with the applicant arguments since the prior art does teach any type that displays at least one infrared thermal image having portion hotter and cooler portions at different respective temperature. Modisette in view of Hanson explain the processor used a control circuit to operate thermoelectric cooler/heater to adjust the temperature of target plate to produce optimum sensitivity, and the thermal image having different portions of temperatures see Figure 2, Character 66, Column 6, Lines 6 – 16 of Hanson, as stated in the rejection above.

Applicant argues the prior art lacks: "Modisette '985 patent does not teach or suggest the display of an infrared image on a second side of the target plate opposite the side across which laser light has been scanned". The examiner disagrees with the applicant arguments since the prior art does teach infrared image on a second side of the target plate opposite the side across which laser light has been scanned. Modisette '985 show in Figure 6, the laser light (74) was scanned by (76) and is well known in the art the infrared image on a second side of the target plate opposite the side across which laser light has been scanned (column 12, lines 20 – 61) as stated in the rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



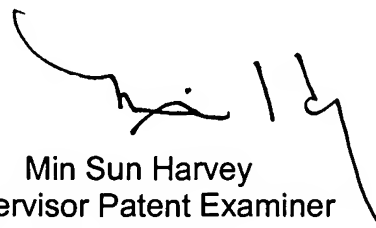
Delma R. Flores Ruiz

Examiner

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DRFR/MH

December 27, 2006



Min Sun Harvey
Supervisor Patent Examiner
Art Unit 2828